

Proposed Project

Upper Little Patuxent Watershed

Project Number: BF30
Subwatershed: Plumtree Branch 1

Project Type: Riparian Buffer
Replacement
Project Size: Approx 2.19 acres

Project Location: Located on Forest Hills Swim Club property at 4310 Columbia Road.

Project Description: This is a large area of open field. The project would entail planting of native trees and shrubs to widen the existing buffer along the stream and reforest the open space. This project is on private property and owner cooperation would be necessary.

Use of volunteer assistance for site preparation, planting and necessary maintenance and monitoring of the site could help reduce overall project cost.



Project Benefits:

Stabilization	Additional trees and shrubs will help stabilize the stream bank.
Habitat	Planting here will provide some habitat improvement but is limited by the proximity of the houses and roadway.
Water Quality	A more established buffer will provide shading effects to reduce water temperature and will trap runoff and pollutants such as fertilizers from the adjacent properties.

Project Constraints:

Environmental	No environmental/permitting constraints are present.
Property Ownership	This project is on private commercial property at 4310 Columbia Road.
Facility Access	Excellent access to this site is obtained from an abandoned road (Southfield Road).
Design / Construction	No design constraints were recognized.

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Cost Detail:

ITEM	QTY	UNITS	UNIT COST	TOTAL (Volunteer Labor)	TOTAL (Without Volunteer Labor)
Riparian Buffer Replacement					
Plant Material (trees)	2.19	AC	\$3,750.00	\$8,225	\$8,225
Plant Material (shrubs)	2.19	AC	\$2,725.00	\$5,977	\$5,977
Mulch, Tree Shelter	1,493	PLANTS	\$6.00	\$8,958	\$8,958
Cost to Plant	1,493	PLANTS	\$6.00	\$0	\$8,958
Site Preparation (volunteer)		AC	\$0.00	\$0	\$0
Basic Site Maintenance and Monitoring (volunteer)		AC	\$0.00	\$0	\$0
Direct Construction Subtotal				\$23,160	\$32,118
Base Construction Cost				\$23,160	\$32,118
Mobilization (10% of Directs or \$1,000)				\$0	\$0
Subtotal				\$23,160	\$32,118
Contingency (30%)				\$6,948	\$9,635
Construction Subtotal				\$30,108	\$41,753
Env't'l Studies / Permitting (5% of Construction or \$1,000)				\$0	\$0
Landscape Design and Surveys (25% of Construction or \$5,000)				\$0	\$0
Total Capital Cost				\$30,108	\$41,753
Operations and Maintenance Costs					
Annual Maintenance	5	Percent		\$1,158	\$1,606
Discount Rate	5	Percent			
Expected Life	5	Years			
Net Present Value of Annual Costs				\$5,014	\$6,953
Life Cycle Cost				\$35,200	\$48,800

Cost Notes and Assumptions:

Project costs were derived for both volunteer and paid labor. In calculating costs for volunteer labor it is assumed that local volunteer organizations could accomplish the project with County assistance and oversight. Site preparation, planting and any necessary maintenance and monitoring would be conducted by volunteers.

Planting density is planned at 1 tree or shrub planted at 8 foot intervals for a total of 681 plants per acre.

Size and species of trees and shrub plant material is based on approved Howard County Recreation and Parks information and is typically a 3-4 foot plant. Use of more mature or more immature plant material would affect the planting density and cost per plant.

Cost of plant material is based on 2009 survey of local and regional wholesale native plant nurseries. Plant material (seedlings) may also be obtained from the Maryland Department of Natural Resources, State Forest Tree Nursery at a much reduced cost or through Howard County's Stream ReLeaf program at no cost.